

## Abstract

The invention describes a process for producing a weld seam (1) in hardenable steel (2) having a material thickness (3) without secondary heating, comprising at least the following steps:

- a) positioning a welding electrode (4) with respect to a weld line (5);
- b) applying a voltage;
- c) supplying a plasma gas (6);
- d) forming an arc (7);
- e) melting the steel (2) in the vicinity of the weld line (5) over the entire material thickness (3).

This process is preferably used to join components for torque transmission in motor vehicles.

Fig. 1